

ABSTRACT

5 The present invention provides ultralow carbon thin
gauge steel sheet and a method for producing the same
where coalescence and growth of inclusions in the molten
steel are prevented and the inclusions are finely
dispersed in the steel sheet, whereby surface defects and
cracks at the time of press forming are prevented, growth
of recrystallized grains at the time of continuous
10 annealing is promoted, and a high r value ($r \text{ value} \geq 2.0$)
and elongation (total elongation $\geq 50\%$) are exhibited, that
is, ultralow carbon thin gauge steel sheet excellent in
surface conditions, formability, and workability
comprised of, by mass%, $0.0003\% \leq C \leq 0.003\%$, $Si \leq 0.01\%$, Mn
15 $\leq 0.1\%$, $P \leq 0.02\%$, $S \leq 0.01\%$, $0.0005\% \leq N \leq 0.0025\%$, $0.01\% \leq \text{acid}$
soluble $Ti \leq 0.07\%$, acid soluble $Al \leq 0.003\%$, and
 $0.002\% \leq La + Ce + Nd \leq 0.02\%$ and a balance of iron and
unavoidable impurities, said steel sheet characterized by
containing at least cerium oxysulfite, lanthanum
20 oxysulfite, and neodymium oxysulfite.